MARINE MAMMAL ENTANGLEMENT
(MME) WORKING GROUP
SBNMS Headquarters – 10:00AM to 4:30 PM
January 7, 2004

MEETING #2 SUMMARY

AGREEMENTS:

The Marine Mammal Entanglement Working Group reached agreement on the following points:

- All interested stakeholders should have access to fishing gear collected from entangled marine mammals. To simplify the logistics of making the gear available it was agreed that the feasibility of a formalized email distribution service be evaluated.
- Existing enforcement of fishing gear regulations is highly irregular and inadequate. Response to reports of gear and fishing area violations is currently irregular and must be timely and enforced to be effective. Enforcement should begin with existing mechanisms and regulations before adding new ones.
- A simple and easily accessible information system is needed to provide the fishing community with timely information about current laws and regulations, and a calendar of fishing area closure, e.g. a web site and/or educational material.
- The idea that the NMFS and NEFMC credit fishermen for the time they loose fishing in order to aid disentanglement efforts was unanimously agreed to. The WG also felt a need to involve the Sanctuary in this strategy.
- It was also agreed that all fishermen who wanted to be part of the credit program must first be Level 1 (reporting and communication) certified by the Center for Coastal Studies.
- The protocol for communication entanglements events should be to 1) CCS, 2, NMFS, 3) Coast Guard, 4) to MA. DMF, and 5) SBNMS.
- It was agreed that whale watch vessels should be required to stand by entangled whales for a minimum of forth-five (45) minutes, but that this time can be shared by several vessels on a rotation basis.

RECOMMENDATIONS:

The Marine Mammal Entanglement Working Group agreed that the following recommendations will be forwarded to Sanctuary Advisory Council (SAC):

- It is recommended that an email distribution list be formally set up by NMFS for the purpose of announcing the time and meeting place when fishing gear collected from entangled marine mammals can be inspected.
- It is recommended that existing enforcement programs and staffing be properly funded.
- It is recommended that existing enforcement regulations be fully implemented and aggressively pursued using existing mechanisms of all responsible agencies. This includes clarifying reporting requirements (who reports to who), interagency coordination and cooperation, and related protocols.
- It is recommended that an enforcement mechanism plan specific to the Sanctuary be prepared.
- It is recommended that the SAC support the idea that the NMFS and the NEFMC credit fishermen for the time they respond to and stop fishing in order to stand by entangled whales.
- It is recommended that a Sanctuary vessel be secured for permanent duty to provide a regular presence within the Sanctuary. This should be for a specified number of days per year, i.e. a minimum time coverage, or that teamwork with other state and federal agencies be instituted to achieve the desired coverage. There are many reasons for the presence of a Sanctuary vessel, including enforcement, research, marine mammal disentanglement and stand-by, and education and outreach.

- It is recommended that commercial whale watch boats standby an entangled whale for a minimum of 45 minutes if no other boats are in the vicinity to hand off the whale to a designated disentanglement team.
- It is recommended that the Sanctuary support incentive programs (such as certificates, photographs of vessels standing by entangled whales, postings on Sanctuary website, etc.) for commercial whale watch companies that stand by entangled whales.
- It is recommended that the Sanctuary support an educational program for the fishing community to increase the number of disentanglement Level One trained commercial fishermen.
- It is recommended that the Sanctuary support a meeting of the Center for Coastal Studies, commercial whale watch operators, and naturalists, to provide informational materials for standing by an entangled whale.
- It is recommended that the Center for Coastal Studies be notified when research and Sanctuary vessels are working within the Sanctuary, and be available to be contacted for use as a standby vessel in the event that an entangled whale is reported.

The following tasks were agreed to:

ACTION ITEM 1: M. Rossman (NMFS) will present on March 10 seabird, sea turtle, and seal entanglement data for the period between 1997 through 2002 (and possibly other species as well, e.g. Cetaceans, Pinnipeds, Odontocetes) collected from within SBNMS, and from within Massachusetts Bay. The purpose of the analysis is to compare and evaluate entanglement activity within the boundary of the Sanctuary with those in the general vicinity.

ACTION ITEM 2: In progress: David Wiley will contact the National Fish & Wildlife Service for technical advisor support (also National Seabird Bi-catch Advisory).

ACTION ITEM 3: In progress: D. Wiley (SBNMS) will contact Michael Moore about whale immune response due to entanglement.

ACTION ITEM 4: The gillnet fishery community will prepare a summary statement providing the WG with information regarding the challenges, difficulties, time, costs, etc., of the effect on fishermen of major gear modifications.

ACTION ITEM 5: Pat Fiorelli and Diane Borggaard will take the idea of an Amendment 13 inclusion to the NMFS and the NEFMC that will permit fisherman to be credited for lost fishing time while they respond to and stand by entangled whales until the disentanglement team arrives.

ACTION ITEM 6: David Morin and Diane Borggaard will forward a summary of their presentations for inclusion in the MME meeting minutes to Just Moller at SBNMS.

MARINE MAMMAL ENTANGLEMENT

Working Group Attendees

NAME	WG SEAT and AFFILIATION
Regina Asmutis	Chair - IWC
Dave Wiley	Team Lead; SBNMS
Dave Morin	Conservation; Center for Coastal Studies
Ronnie Hunter	Whale Watching; Capt. John Boats
Sharon Young	Conservation; Humane Society of the U.S.
Nina Young	Conservation; Ocean Conservancy
Jennifer Kennedy	Conservation; Blue Ocean Society
Stephen Welch	Commercial Fishing (Gillnet); Groundfish and Monkfish Advisor, NMFMC/Gillnet Fisherman
Dave Maciono	Commercial Fishing (Gillnet); Gillnet Fisherman
John Pappalardo	Commercial Fishing (Longline); Cape Cod Hook Fisherman
Edward Lyman	State; MA Dept. of Marine Fisheries
Diane Borggaard	NMFS; NMFS/PR
Marjorie Rossman	NMFS; NEFSC
Pat Fiorelli	Council; NEFMC
Lisa Conger	Science; NEAq Right Whale Program
Tom French	Science; MA Dept. of Marine Fisheries

Technical Advisor(s)

Gary Ostrum	MA Lobsterman's Association
John F. Kenney	NOAA

Working Group Members Not Present

William Bartlett	Commercial Fishing (Trap); MA. Lobster Assoc. (Not Present)
Todd Jesse	Commercial Fishing (Trap); S. Shore Lobsterman's Assoc. (Not Present)

Others Present

Just C. Moller	GIS Research Analyst, SBNMS (Rapporteur)

WELCOME AND INTRODUCTIONS

David Wiley (WG Team Lead) opened the meeting at 10:10 AM with a review presentation covering the status of the current SBNMS management plan review process, for the benefit of WG members who were not able to attend the first meeting on December 12, 2003. He also covered the meeting mechanics, ground rules, member responsibilities, and the decision-making process. He also covered the purpose of the Marine Management Entanglement Action Plan and its goal of characterizing issues and identifying strategies for minimizing entanglement risks. The highlights of this presentation are detailed in the minutes of the December 12 meeting.

Review of Minutes from December 12, 2003 Meeting

Action Item 1 and 5 were combined. M. Rossman (NMFS) and Pat Fiorelli (NEFMC) will present data at the March 10, 2004 meeting regarding marine mammal entanglements (other than large whales), and the number of entanglements that have occurred within rolling fishing enclosures (see Action Item #1 of this document).

Action Item 3: In progress: D. Wiley is contacting the National Fish and Wildlife Service and will report a presentation date at the February 11 meeting.

Action Items 4 and 5. D. Morin (CCS) will present the information requested at this meeting (see summary below).

Action Item 6. Diane Borggaard will present the information requested at this meeting (see summary below).

Action Item 7. In progress: D. Wiley (SBNMS) is investigating VTR data relative to the distribution of fishing gear over various areas within and around the Sanctuary.

Action Item 8. In progress: D. Wiley (SBNMS) will contact Michael Moore about whale immune response due to entanglement.

Action Items 9, 10, and 11 were accepted as completed, except that the agenda for the February 11 meeting will be devoted to the Lobster Fishery Action Plan during the morning, and the Gillnet Fishery Action Plan in the afternoon.

A vote was taken to accept the December 10, 2003 minutes, as amended. All members agreed.

THE ATLANTIC LARGE WHALE TAKE REDUCTION PLAN (ALWTRP)
Presentation by Diane Borggaard, National Marine Fisheries, Office of Protected Resources

Pursuant to Section 118 of the Marine Mammal Protection Act (MMPA), the National Marine Fisheries Service (NOAA Fisheries) developed and implemented the Atlantic Large Whale Take Reduction Plan (ALWTRP) to reduce the serious injury and mortality of right, humpback and fin whales due to accidental entanglement in U.S. commercial fishing gear. The measures identified in the ALWTRP would also benefit minke whales. The ALWTRP was drafted and developed with input from the Atlantic Large Whale Take Reduction Team (ALWTRT). Established in 1996, the ALWTRT is composed of fishing industry representatives, environmentalists, whale experts, state and federal officials, and other interested parties. The Stellwagen Bank National Marine Sanctuary (SBNMS) is represented on the ALWTRT.

The ALWTRP is an evolving plan that changes as information become available about why whales come entangled and how fishing practices might be modified to reduce the risk of entanglement. The ALWTRP became effective in 1997 and has been modified since that time through subsequent rulemaking actions. Presently, the plan affects lobster trap/pot gear and various types of gillnet gear that present an entanglement risk to large whales. However, NOAA Fisheries is considering regulations for additional trap/pot and gillnet gear. Requirements for lobster trap/pot and gillnet gear include universal requirements (e.g. no floating buoy line at the surface) and other specific requirements dependent upon which ALWTRP management area the

gear is set. Additionally, restrictions may be more stringent during certain times of the year (e.g. Cape Cod Bay Critical Habitat from January 1 - May 15).

The SBNMS overlaps numerous ALWTRP management areas including Cape Cod Bay Critical Habitat, Stellwagen Bank/Jeffreys Ledge, and the Seasonal Area Management West (March 1-April 30) area. The ALWTRP's Dynamic Area Management (DAM) program is also applicable to the SBNMS. The DAM program is designed to protect unexpected aggregations of right whales within defined areas north of 40° N latitude. Under this program, NMFS may: 1) require the removal of all lobster trap/pot and anchored gillnet fishing gear for a 15-day period; 2) allow modified lobster trap/pot and anchored gillnet gear within a DAM zone for a 15-day period; and/or 3) issue an alert to fishermen requesting the voluntary removal of all lobster trap/pot and anchored gillnet gear for a 15-day period, and asking fishermen not to set any additional gear in the DAM zone during the 15-day period.

NOAA Fisheries is presently amending the ALWTRP through rulemaking to further reduce the incidental mortality and serious injury of right, humpback and finback whales incidentally taken in commercial fisheries. In 2003, NOAA Fisheries received management options to consider when amending the ALWTRP from the ALWTRT as well as the general public. NOAA Fisheries expects a proposed rule and draft Environmental Impact Statement (EIS) to publish in 2004 for the public to comment on, and a final rule and final EIS to publish in 2005.

Comment: D. Maciono (Gillnet fisherman) asked the question "What do fishermen do with gear that is now illegal and not worth modifying due to time expense and costs of materials?" There is a significant cost associated with major gear modifications that is required when new regulations are implemented. There is a time and cost to stay current with new gear modifications that is difficult for fishermen to accept along with the regular time limitations and costs of making a living fishing.

Comment: G. Ostrum (MA Lobsterman's Association) said it is often difficult to figure out what regulations are in effect when and in what areas. He felt that regulations are becoming so complex that violations happen both purposely and inadvertently, and said that one issue that needs to be addressed is how to enforce the existing regulations so that fishermen who make the effort to work within the rules are not penalized by the actions of those that don't. He added that "enforcement" should first focus on making existing enforcement programs work, i.e. adequate funding and man power. Timely response by authorities when violation reports are received has been inadequate and ineffective, and a clear structure and protocol for who reports to whom needs to be clarified.

Concern: Various members of the WG expressed their opinion that SBNMS is not funded adequately, or has the prospect of receiving adequate funds, for a functional and effective enforcement program, a condition that contributes to the ineffectiveness of existing enforcement capabilities.

Q. Does the SAC include an enforcement committee?

A. No. The enforcement issue is part of each WG. But it is a good idea for the WG to form a sub-group to address enforcement related to marine mammal entanglement in fishing gear.

Q. Is Joe Green (NMFS) assigned to enforcement of SB?

A. Yes.

ANALYSIS OF LARGE WHALE ENTANGLEMENT GEAR
Presentation by John F. Kenney, National Marine Fisheries, Gear Technology

(Add Presenter's Summary)

Comment: D. Morin asked for a standardized approach for how gear involved in marine mammal entanglements should be photographed at the entanglement site.

Comment: G. Ostrum said it is important to identify and catalogue which industry the gear is coming from. He suggested documenting gear line type and diameter, floats, knots, bridal splicing, and toggles.

Q. What is the status of technology for tracking fishing gear.

A. One promising new technology are micro implants the size of a grain of sand that can be implanted in gear without affecting handling and operations, and can provide identification information.

LOBSTER FISHING TRENDS OFF MASSACHUSETTS, AND SCALE MODELING OF FIXED FISHING GEAR TO COMPARE AND QUANTIFY DIFFERENTLY CONFIGURED BUOYLINE AND GROUNDLINE PROFILES: AN INVESTIGATION OF ENTANGLEMENT THREAT.
Presentation by Ed Lyman, Massachusetts Division of Marine Fisheries.

Massachusetts Division of Marine Fisheries (DMF) provided a summary of recent trends in the lobster fishing industry for the inshore and offshore statistical areas of Massachusetts. He then presented the results of tank tests conducted at the Marine Institute of Memorial University, Newfoundland's Center for Sustainable Resources, of a number of different rope types (float, no-float, etc.) using scale models of fixed fishing gear to compare, quantify and investigate buoyline and groundline profiles to address the entanglement threat they pose.

Buoyline scaled-models were configured with a variety of line types, surface and subsurface buoys, and scopes. Groundline scaled-models were configured entirely as buoyant line. Models were subjected to scaled-currents up to 3.0 kts. and modeled at 1:10 and 1:5 scales in the Center for Sustainable Resources' 22 M long and 4 M deep flume tank. This provided full-scale depths of 40 M (131 ft.) and 20 M (65 ft), or that comparable to depths found in Cape Cod Bay. Twenty-one (21) different configurations were tested during one hundred and twenty (120) modeled test runs. The results showed that buoyline configurations and scope affected buoyline profiles in the water column, and that both buoyline and groundline profiles differed when subject to different currents. Furthermore, the use of float line at the bottom 1/3 terminus of a buoyline, showed similar profiles to that of 100% sink, 100% float, and 100% neutral-buoyant configured lines over all but the slowest current speeds (< .5 kts). Modeling did not account for any surface influences, such as wind and sea state. Independent, full-scale field-tests comparing buoylines and groundlines showed similar. Results also showed that the amount of scope in the buoyline was the most significant variable in changing the buoyline profile, namely its horizontal component. While shortening the scope of the buoyline may be the best means of reducing the buoyline profile, replacing the bottom 1/3 of an all sink buoyline with floating line appears to not change the buoyline profile appreciably given temporal and spatial considerations, and thus may not pose an additional entanglement risk.

Comment: D. Maciono (Gillnet fisherman) said that it is important to distinguish between "float line" and "floating line". The terms refer to different gear depending on whether one is discussing the lobster fishery or the gillnet fishery. Float line is the boyant part at the top of a gillnet, while floating line is any line, such as poly, that is made of buoyant material. He also noted that fishermen have the problem with rope and gear that are no longer permitted for fishing. Landfills will not accept it and it ends up being stored on the fisherman's property, or being disposed of illegally. Gear modification requirements need to address the issue of disposal of old equipment.

A STUDY OF THE UNDERWATER PROFILES OF LOBSTER TRAWL GROUND LINES
Presentation by Gary Ostrom, Massachusetts Lobsterman's Association

Massachusetts Division of Marine Fisheries (DMF) contracted a commercial lobsterman to deploy 5-pot lobster trawls in coastal waters to allow DMF SCUBA divers to measure the profile in the water column of the lines attached to, and connecting, the traps. Three different neutrally buoyant lines were observed as well as a

floating line and a sinking line. Laboratory testing and underwater monitoring showed that neutrally buoyantly lines have a much lower vertical profile than floating line and are similar in performance to sinking line. All three neutrally buoyant lines were negatively buoyant and were observed in contact with the sea floor. Independent laboratory testing of these lines bore this out with the specific gravities measuring greater than that of seawater. The deployment of trawls with all floating line also yielded useful measurements of the maximum heights achieved by floating groundline. Average heights within each trawl rigged with floating line were, 8-, 16-, and 18-feet. Replacement of floating line with negatively buoyant line will reduce the probability of whale entanglement.

Gary expressed his belief that lobster fishing gear is currently as whale-safe as possible before it leaves the dock, and that this should be the objective of all fisheries. Fishermen cannot change gear once it is deployed on the fishing grounds. He also supports the use of sinking line as one method for reducing entanglement risk.

POTENTIAL RISK REDUCTION THROUGH USE OF NON-FLOAT LINE IN SBNMS
Presentation by David Wiley, Research Coordinator, SBNMS

David Wiley presented the results of a year-long study designed, in part, to identify use areas within the Sanctuary where a high potential of fishing gear and whale interaction occur. The study developed an index of Relative Interaction Potential (RIP) to identify where baleen whales might become entangled in fishing gear. The RIP analysis identified a number of areas that stood out in terms of entanglement risk, which varied with season.

A second part of the study attempted to estimate the total amount of gear line (Lobster and Gillnet) in the water within SB, and the amount of floating line that could potentially be removed if the majority of the floating line (lobster gear, in particular) was replaced with sinking line. This study was presented at the December 12, 2003 meeting and is summarized in more detail in the minutes for that meeting.

Comment: N. Young (Ocean Conservancy) suggested that the Sanctuary volunteer itself as a testing area for new and/or proposed gear modifications.

Comment: S. Welch (NMFMC/Gillnet Fisherman) asked what it is that the Sanctuary wants the WG to propose, more regulations or improvement of existing protection mechanisms and/or gear? Should this involve more effective education of fishermen and more aggressive enforcement of existing regulations?

Comment: D. Wiley (SBNMS) responded that the objective is to identify ways that the industry can fish more benignly so that if or when more gear is put in the water, together with improved gear and whale protection strategies, the risk of entanglement is reduced, not increased. The goal is to permit continued fishing within the Sanctuary using prescribed methods and gear types, while meeting the Sanctuary's management objectives of protecting whales and marine mammals as mandated by the National Marine Sanctuary Act.

Comment: S. Young (Humane Society of the U.S.) noted that 'critical habitats' were designated because they are heavily used by Right Whales (an endangered species). The SB marine sanctuary was also designated, in part, because of its role as feeding grounds for large endangered whales. She felt that the WG needs to acknowledge that the SB sanctuary needs a higher degree of protection and/or special management practices. She proposed that 1) the Sanctuary be considered for year-round (not seasonal) uniform fishing regulations, and 2) that more conservation regulations apply to the Sanctuary because of its status as a protected marine environment.

Concern: S. Welch (NMFMC/Gillnet Fisherman) expressed his concern about the effect on the fishing industry of more regulations and requirements. "We don't know how big the entanglement problem is within the Sanctuary." It is his opinion that current gear modifications work. "There are things we can do, but major modifications to gear and practices is not warranted," he said.

Comment: L. Conger (NEAq Right Whale Program) would like to see some ideas come out of the WG that helps to clarify current issues, e.g. where whales become entangled; how many occurrences are from within the sanctuary; gear identification methods, and other data gathering and research with this objective.

Comment: D. Wiley (SBNMS) encouraged solutions that permit a viable and sustainable fishing industry, but conducted in ways that are compatible with the Sanctuary's mandate.

Comment: T. French (MA Dept. of Marine Fisheries) noted that the Sanctuary is a wonderful place to do research, but that funds are lacking, except through the NMFS. More funding should be directed toward the Sanctuary location (through NOAA and/or NOS) for research to acquire the data needed to address the issues being discussed.

Comment: D. Borggaard (NMFS/PR) and E. Lyman (MA Dept. of Marine Fisheries) noted that Challenge Grants are available that can be used to engage the fishing industry in Sanctuary research.

SUMMARY OF DISENTANGLEMENT SUCCESS INAND AROUND THE SBNMS, WITH A EMPHASIS ON WAYS TO IMPROVE SUCCESS

Presentation by Dave Morin, Assistant Director of the Rescue Program at the Center for Coastal Studies.

Since 1985, 57 confirmed large whale entanglement reports have occurred within the Sanctuary boundary with a 5 mile buffer. Humpback whales are the primary species reported entangled within the boundaries with 47 reports (82% of total reports). There have only been 4 right whale reports of 3 individuals (7% of total reports). There were three individual Minke whale entanglement reports and 3 fin whale reports of the same individual.

Whale watch vessels are the primary reporter (74%) of entangled whale sightings within the Sanctuary. Fishermen, aerial surveys (tuna and whale) and existing network members make up the rest of the reporting groups.

The Center for Coastal Studies (CCS) disentanglement rescue team has an average response time of 66 minutes (from the time an entanglement is reported, to the time a disentanglement vessel leaves the dock). On-scene time (dock to entanglement site) varied greatly due to distance from the disentanglement team, weather conditions, and other factors, but still averaged 2 ½ hours. Combined with the response time it is expected that vessels would have to stand-by 3 ½ hours until the rescue team arrived on scene.

27 out of 41 events (66%) involved stand-by vessels leading to 22 disentanglements or non-life threatening assessments. In ten cases where no vessels remained with the entangled whales, the success rate was only 10% with most of those whales not being seen again after the entanglement report. Other reasons for unsuccessful outcomes are weather, time of day, and mechanical breakdowns of disentanglement vessels or equipment. If the statistical data is combined with CCS's humpback disentanglement success rate (90% per individual), the involvement of a stand-by vessel is of critical importance. This further supports the need for a mandatory stand-by time for whale watching vessels since they are the primary reporter of entanglement events within the Sanctuary.

Concern: D. Maciono (Gillnet Fisherman) shared the basic reality of a fisherman's workday, that given the amount of effort and cost of getting onto the fishing grounds, and the decreasing time permitted to fish, there is little if any incentive to stop fishing to stand by an entangle whale. The practical reality is that fishing time is precious. However, he proposed that if fishermen were given credit for the time they stopped fishing while standing by an entangled whale, there would be a greater incentive to do so.

Comment: The WG found this a good solution for increasing the probability of disentanglement success. Pat Fiorelli and Diane Borggaard offered to take the idea to the NMFS and the NEFMC to see if it could be included as an Amendment 13 inclusion.

Concern: D. Morin (CCS) said that whale watching boats are currently the primary source of entanglement reports due principally to regular presence. However, they are not required to stand by and typically do not. He felt that incentives need to be found to encourage stand by, and proposed that companies be required to stand by for at least 45 minutes. He recognized that, given the nature of the business, it may be unfair to place the entire responsibility on a single boat, and suggested that the 45 minute requirement could be a shared duty rotating between a number of boats.

ACTION PLAN DISCUSSION

No action plan was finalized during this meeting.

NEXT STEPS

1. Meeting Schedule and Location

The WG members agreed to meet again on Wednesday, February 11, 2004 at the Plymouth Public Library in Plymouth, Massachusetts.

2. Proposed Agenda Outline for Meeting

Meeting #3: February 11 AM: Action Plan for Gillnet Fisheries.
PM: Action Plan for Lobster Fisheries.